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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/314,052	05/18/1999	DOUGLAS E. OTT	15006.0009	4618
7590 07/19/2010 D. EDWARD DOLGORUKOV MARSHALL AND MELHORN, LLC FOUR SEAGATE- 8TH FLOOR TOLEDO, OH 43604				
EXAMINER MENDEZ, MANUEL A				
ART UNIT		PAPER NUMBER		
3763				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/314,052

Applicant(s)

OTT ET AL.

Examiner

Manuel A. Mendez

Art Unit

3763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 82-87 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 82-87 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Examiner's Comment

In the process of preparing this application for interference proceedings, a full review of all the documents presented by applicant suggests that a reevaluation of the pending claims is necessary in light of:

- (1) the remarks submitted on December 17, 2009, concerning the decision of Judge Kocoras involving U.S. Patent No. 5,411,474 (Ott et al.),
- (2) the comments presented by applicant in the REMARKS section, pages 5-8, submitted on February 9, 2005, explaining the support for the copied claims in the specification of this application, and
- (3) the subject matter disclosed in U.S. Patent No. 5,411,474 (Ott et al.) in light of the comments presented by applicant in the REMARKS section, pages 5-8, submitted on February 9, 2005.

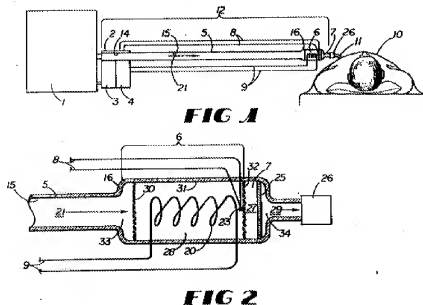
Accordingly, in order to expedite the prosecution of this application, the examiner of record presents the following rejections and respectfully invites applicant to provide comments.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 82 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ott et al. (US 5,411,474; hereafter "Ott") in view of the comments presented by applicant in the REMARKS section, pages 5-8, submitted on February 9, 2005 (hereafter "REMARKS").



In relation to claim 82, in figures 1 and 2, the Ott patent shows an inlet (14), a humidification device (6) in fluid communication with the inlet (14), a humidification material (30, 32) placed in a shell (16), and an outlet (29). The Ott patent does not explicitly disclose a humidification material "that readily absorbs moisture and readily releases moisture when exposed to a dry environment". However, in the REMARKS, page 5, starting in line 20, applicant defines such material as:

"one or more layers of liquid-retaining or absorbing padding or sponge material."

In view of the above definition, in figure 2, the Ott patent shows in chamber (6), a gas-permeable membrane (30), a gas-permeable membrane (32), and a water-containing humidifying bed (28) wherein the water is retained in the bed by the two gas-permeable membranes that allow gas to flow, but restrict the flow of liquids. The use of the membranes is further defined in column 6, lines 35-36 and lines 44-51. Therefore, based on the teachings of Ott and the definition disclosed in the REMARKS, it can be concluded that the gas-permeable membranes disclosed in the Ott patent are capable of readily absorbing moisture and readily releasing moisture when exposed to a dry environment.

The Ott patent does not disclose a humidification material having a configuration that generates turbulence in a gas as it passes over a surface of the shell. However, in the REMARKS, page 6, starting in line 10, applicant explicitly states:

“turbulence is also caused by the gas exiting and passing over the surface of humidification material 130 (which can be porous) at numerous different angles and then having to pass over the surface (which can be porous) of humidification material 131 to enter that material at numerous different angles. Turbulence will also be caused as gas enters the chamber and has to change direction rapidly to enter various pores of humidification material 130.”

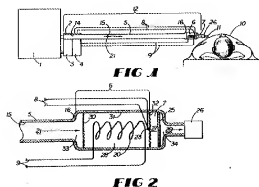
Accordingly, following the applicant's line of reasoning, the “flowing gas” illustrated in figure 2 above by numerical (21), experiences turbulence when the gas encounters a change in direction¹ and/or when the gas encounters obstacles² that impede free-

¹ In figure 2, as the gas flows to the distal end of the apparatus, turbulence is created as the gas moves from a lumen of smaller diameter to a lumen of greater diameter near the first gas-permeable membrane (30), and similarly, as the gas moves from a lumen of greater diameter to a lumen of smaller diameter in the area distal to filter (25).

flowing gas characteristics. Therefore, it would not be unreasonable to conclude that the Ott patent discloses "a configuration that generates turbulence in a gas as it passes over a surface of said shell."

Alternatively, for a person of ordinary skill in the art, modifying the apparatus disclosed by Ott with a configuration that generates turbulence in a gas would have been considered obvious since turbulence would have been inherently created by changes in direction due to the design of the lumen and the passage of the gas through gas-permeable membranes.

Claim 83 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Ott et al.** (US 5,411,474; hereafter "Ott") in view of the comments presented by applicant in the REMARKS section, pages 5-8, submitted on February 9, 2005 (hereafter "REMARKS").



In relation to claim 83, in figures 1 and 2, the Ott patent shows an inlet (14), a humidification device (6) in fluid communication with the inlet (14), a heater housing

² In figure 2, the gas will experience turbulence as it flows through gas-permeable membrane (30), optional gas-permeable membrane (32), and filter (25).

comprising a heater (20) having a plurality of openings for the gas to flow in view of the spiral shape of the heater, a humidification material (30, 32) placed in a shell (16), and an outlet (29). The Ott patent does not explicitly disclose a humidification material "that readily absorbs moisture and readily releases moisture when exposed to a dry environment". However, in the REMARKS, page 5, starting in line 20, applicant defines such material as:

"one or more layers of liquid-retaining or absorbing padding or sponge material."

In view of the above definition, in figure 2, the Ott patent shows in chamber (6), a gas-permeable membrane (30), a gas-permeable membrane (32), and a water-containing humidifying bed (28) wherein the water is retained in the bed by the two gas-permeable membranes that allow gas to flow, but restrict the flow of liquids. The use of the membranes is further defined in column 6, lines 35-36 and lines 44-51. Therefore, based on the teachings of Ott and the definition disclosed in the REMARKS, it can be concluded that the gas-permeable membranes disclosed in the Ott patent are capable of readily absorbing moisture and readily releasing moisture when exposed to a dry environment.

The Ott patent does not disclose a humidification material having a configuration that generates turbulence in a gas as it passes over a surface of the shell. However, in the REMARKS, page 6, starting in line 10, applicant explicitly states:

"turbulence is also caused by the gas exiting and passing over the surface of humidification material 130 (which can be porous) at numerous different angles and then having to pass over the surface (which can be porous) of humidification material 131 to enter that material at numerous different angles. Turbulence will also be caused

as gas enters the chamber and has to change direction rapidly to enter various pores of humidification material 130."

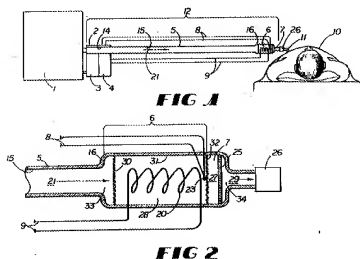
Accordingly, following the applicant's line of reasoning, the "flowing gas" illustrated in figure 2 above by numerical (21), experiences turbulence when the gas encounters a change in direction³ and/or when the gas encounters obstacles⁴ that impede free-flowing gas characteristics. Therefore, it would not be unreasonable to conclude that the Ott patent discloses "a configuration that generates turbulence in a gas as it passes over a surface of said shell."

Alternatively, for a person of ordinary skill in the art, modifying the apparatus disclosed by Ott with a configuration that generates turbulence in a gas would have been considered obvious since turbulence would have been inherently created by changes in direction due to the design of the lumen and the passage of the gas through gas-permeable membranes.

³ *Supra*, note 1.

⁴ *Supra*, note 2.

Claim 84 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ott et al. (US 5,411,474; hereafter "Ott") in view of the comments presented by applicant in the REMARKS section, pages 5-8, submitted on February 9, 2005 (hereafter "REMARKS").



In relation to claim 84, in figures 1 and 2, the Ott patent shows an inlet (14), a heater (20) in communication with the inlet, a temperature sensor (23), a humidification material (30, 32) placed in a shell (16), and an outlet (29). The Ott patent does not explicitly disclose a humidification material "that readily absorbs moisture and readily releases moisture when exposed to a dry environment". However, in the REMARKS, page 5, starting in line 20, applicant defines such material as:

"one or more layers of liquid-retaining or absorbing padding or sponge material."

In view of the above definition, in figure 2, the Ott patent shows in chamber (6), a gas-permeable membrane (30), a gas-permeable membrane (32), and a water-containing

humidifying bed (28) wherein the water is retained in the bed by the two gas-permeable membranes that allow gas to flow, but restrict the flow of liquids. The use of the membranes is further defined in column 6, lines 35-36 and lines 44-51. Therefore, based on the teachings of Ott and the definition disclosed in the REMARKS, it can be concluded that the gas-permeable membranes disclosed in the Ott patent are capable of readily absorbing moisture and readily releasing moisture when exposed to a dry environment.

The Ott patent does not disclose a humidification material having a configuration that generates turbulence in a gas as it passes over a surface of the shell. However, in the REMARKS, page 6, starting in line 10, applicant explicitly states:

“turbulence is also caused by the gas exiting and passing over the surface of humidification material 130 (which can be porous) at numerous different angles and then having to pass over the surface (which can be porous) of humidification material 131 to enter that material at numerous different angles. Turbulence will also be caused as gas enters the chamber and has to change direction rapidly to enter various pores of humidification material 130.”

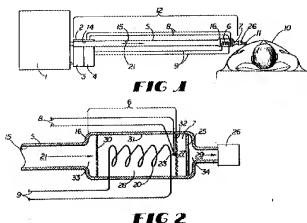
Accordingly, following the applicant's line of reasoning, the “flowing gas” illustrated in figure 2 above by numerical (21), experiences turbulence when the gas encounters a change in direction⁵ and/or when the gas encounters obstacles⁶ that impede free-flowing gas characteristics. Therefore, it would not be unreasonable to conclude that the Ott patent discloses “a configuration that generates turbulence in a gas as it passes over a surface of said shell.”

⁵ *Supra*, note 1.

⁶ *Supra*, note 2.

Alternatively, for a person of ordinary skill in the art, modifying the apparatus disclosed by Ott with a configuration that generates turbulence in a gas would have been considered obvious since turbulence would have been inherently created by changes in direction due to the design of the lumen and the passage of the gas through gas-permeable membranes.

Claim 85 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ott et al. (US 5,411,474; hereafter "Ott") in view of the comments presented by applicant in the REMARKS section, pages 5-8, submitted on February 9, 2005 (hereafter "REMARKS").



In relation to claim 85, in figures 1 and 2, the Ott patent shows an inlet (14), a humidification device (6) in fluid communication with the inlet (14), a humidification material (30, 32), a heater (20) in communication with the inlet that generates heat via electricity, and an outlet (29). The Ott patent does not explicitly disclose a humidification material "that readily absorbs moisture and readily releases moisture

when exposed to a dry environment". However, in the REMARKS, page 5, starting in line 20, applicant defines such material as:

"one or more layers of liquid-retaining or absorbing padding or sponge material."

In view of the above definition, in figure 2, the Ott patent shows in chamber (6), a gas-permeable membrane (30), a gas-permeable membrane (32), and a water-containing humidifying bed (28) wherein the water is retained in the bed by the two gas-permeable membranes that allow gas to flow, but restrict the flow of liquids. The use of the membranes is further defined in column 6, lines 35-36 and lines 44-51. Therefore, based on the teachings of Ott and the definition disclosed in the REMARKS, it can be concluded that the gas-permeable membranes disclosed in the Ott patent are capable of readily absorbing moisture and readily releasing moisture when exposed to a dry environment.

Concerning the term "unbundled", on page 6, starting in line 19, the REMARKS disclose that the:

"humidification means may be "one or more layers." (Page 8, lines 4-6). For the same reasons, the humidification material can be the sole humidification material of the gas humidification apparatus."

In figure 2 above, the Ott patent shows a gas-permeable membrane (30) having a single layer, a gas-permeable membrane (32) having a single layer, and a filter (25). Based on the teachings of the Ott patent, humidification material having single layers would have been considered conventional in the art at the time the invention was made. Moreover, in view of the proven conventionality of this particular structural element, the

"mere duplication of parts [layers] has no patentable significance unless a new and unexpected result is produced".⁷ Therefore, the fact that the apparatus would have been designed with multiple layers would have provided no patentable weight.

Finally, the phrase "unbundled to any other humidification material" could be interpreted as having multiple layers of different materials. In figure 2, the Ott patent shows at the most distal end of the apparatus, a gas-permeable membrane (32) working in combination with a filter (25). Both, the gas-permeable membrane and the filter are made of different materials demonstrating the conventionality of having embodiments with multiple layers made of different materials.

The Ott patent does not disclose a humidification material having a configuration that generates turbulence in a gas as it passes over a surface of the shell. However, in the REMARKS, page 6, starting in line 10, applicant explicitly states:

"turbulence is also caused by the gas exiting and passing over the surface of humidification material 130 (which can be porous) at numerous different angles and then having to pass over the surface (which can be porous) of humidification material 131 to enter that material at numerous different angles. Turbulence will also be caused as gas enters the chamber and has to change direction rapidly to enter various pores of humidification material 130."

Accordingly, following the applicant's line of reasoning, the "flowing gas" illustrated in figure 2 above by numerical (21), experiences turbulence when the gas encounters a change in direction⁸ and/or when the gas encounters obstacles⁹ that impede free-flowing gas characteristics. Therefore, it would not be unreasonable to conclude that the

⁷ *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

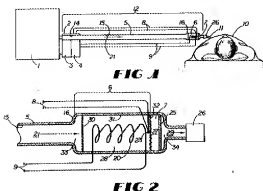
⁸ *Supra*, note 1.

⁹ *Supra*, note 2.

Ott patent discloses "a configuration that generates turbulence in a gas as it passes over a surface of said shell."

Alternatively, for a person of ordinary skill in the art, modifying the apparatus disclosed by Ott with a configuration that generates turbulence in a gas would have been considered obvious since turbulence would have been inherently created by changes in direction due to the design of the lumen and the passage of the gas through gas-permeable membranes.

Claim 86 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ott et al. (US 5,411,474; hereafter "Ott") in view of the comments presented by applicant in the REMARKS section, pages 5-8, submitted on February 9, 2005 (hereafter "REMARKS").



In relation to claim 86, in figures 1 and 2, the Ott patent shows an inlet means for supplying a gas (14), outlet means (29), and a humidification material (30, 32) placed in a shell (16). The Ott patent does not explicitly disclose a humidification material "that readily absorbs moisture and readily releases moisture when exposed to a dry

environment". However, in the REMARKS, page 5, starting in line 20, applicant defines such material as:

"one or more layers of liquid-retaining or absorbing padding or sponge material."

In view of the above definition, in figure 2, the Ott patent shows in chamber (6), a gas-permeable membrane (30), a gas-permeable membrane (32), and a water-containing humidifying bed (28) wherein the water is retained in the bed by the two gas-permeable membranes that allow gas to flow, but restrict the flow of liquids. The use of the membranes is further defined in column 6, lines 35-36 and lines 44-51. Therefore, based on the teachings of Ott and the definition disclosed in the REMARKS, it can be concluded that the gas-permeable membranes disclosed in the Ott patent are capable of readily absorbing moisture and readily releasing moisture when exposed to a dry environment.

The Ott patent does not disclose a humidification material having a configuration that generates turbulence in a gas as it passes over a surface of the shell. However, in the REMARKS, page 6, starting in line 10, applicant explicitly states:

"turbulence is also caused by the gas exiting and passing over the surface of humidification material 130 (which can be porous) at numerous different angles and then having to pass over the surface (which can be porous) of humidification material 131 to enter that material at numerous different angles. Turbulence will also be caused as gas enters the chamber and has to change direction rapidly to enter various pores of humidification material 130."

Accordingly, following the applicant's line of reasoning, the "flowing gas" illustrated in figure 2 above by numerical (21), experiences turbulence when the gas encounters a

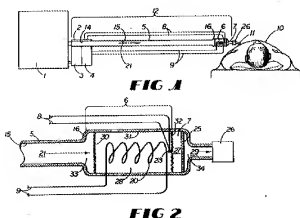
change in direction¹⁰ and/or when the gas encounters obstacles¹¹ that impede free-flowing gas characteristics. Therefore, it would not be unreasonable to conclude that the Ott patent discloses "a configuration that generates turbulence in a gas as it passes over a surface of said shell."

Alternatively, for a person of ordinary skill in the art, modifying the apparatus disclosed by Ott with a configuration that generates turbulence in a gas would have been considered obvious since turbulence would have been inherently created by changes in direction due to the design of the lumen and the passage of the gas through gas-permeable membranes.

¹⁰ *Supra*, note 1.

¹¹ *Supra*, note 2.

Claim 87 is rejected under 35 U.S.C. 103(a) as obvious over Ott et al. (US 5,411,474; hereafter "Ott") in view of the comments presented by applicant in the REMARKS section, pages 5-8, submitted on February 9, 2005 (hereafter "REMARKS"), and in further view of Riigheimer (US 4,557,261).



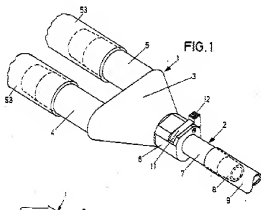
In relation to claim 87, in figures 1 and 2, the Ott patent shows an inlet (14), a heater (20) in communication with the inlet, a temperature sensor (23), a humidification material (30, 32) placed in a shell (16), and an outlet (29). The Ott patent does not explicitly disclose a humidification material "that readily absorbs moisture and readily releases moisture when exposed to a dry environment". However, in the REMARKS, page 5, starting in line 20, applicant defines such material as:

"one or more layers of liquid-retaining or absorbing padding or sponge material."

In view of the above definition, in figure 2, the Ott patent shows in chamber (6), a gas-permeable membrane (30), a gas-permeable membrane (32), and a water-containing humidifying bed (28) wherein the water is retained in the bed by the two gas-permeable

membranes that allow gas to flow, but restrict the flow of liquids. The use of the membranes is further defined in column 6, lines 35-36 and lines 44-51. Therefore, based on the teachings of Ott and the definition disclosed in the REMARKS, it can be concluded that the gas-permeable membranes disclosed in the Ott patent are capable of readily absorbing moisture and readily releasing moisture when exposed to a dry environment.

The Ott patent does not explicitly disclose a second inlet to transfer fluid to the humidification material. However, it is well established by the Ott patent that inlets would have been considered conventional in the art at the time the invention was made. Accordingly, in view of the conventionality of inlets, the "mere duplication of parts [inlets] has no patentable significance unless a new and unexpected result is produced".¹² Therefore, the fact that the apparatus would have been designed with multiple inlets would have provided no patentable weight.



In addition to the case law relating to the duplication of parts, the use of a second inlet would have been considered conventional in the art at the time the invention was

¹² *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

made as evidenced by the teachings of Riighheimer. The Riighheimer patent shows in figure 1 above, the use of two inlets (4, 5) designed to infuse and mix different fluids.

Accordingly, for a person of ordinary skill in the art, modifying the apparatus disclosed by Ott with a second inlet, as taught by Riighheimer, would have been considered obvious because a second inlet would have permitted the infusion and mixing of different gases, enhancing the capabilities of the apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manuel A. Mendez whose telephone number is 571-272-4962. The examiner can normally be reached on 0730-1800 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Nicholas D. Lucchesi can be reached on 571-272-4977. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Manuel A. Mendez/

Primary Examiner, Art Unit 3763

Manuel A. Mendez
Primary Examiner
Art Unit 3763

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/DONALD T HAJEC/
Director, Technology Center 3700